Experiment-13

Write a C program for implementing a Lexical Analyzer to Count the number of characters, words, and lines .

Program:

```c
#include <stdio.h>

int main() {
    char c;
    int characters = 0, words = 0, lines = 0;

    printf("Enter text (Ctrl+D or Ctrl+Z to end input):\n");

    while ((c = getchar()) != EOF) {
        characters++;

        // Check for a new line
        if (c == '\n') {
            lines++;
            words++;
        }

        // Check for a space or tab to count words
        if (c == ' ' || c == '\t') {
```

```c
            words++;
        }
    }

    // Handling the case where the last line might not end
with a newline
    if (characters > 0) {
        lines++;
        words++;
    }

    printf("Total number of characters: %d\n", characters);
    printf("Total number of words: %d\n", words);
    printf("Total number of lines: %d\n", lines);

    return 0;
}
```
Out put:

```
Enter text (Ctrl+D or Ctrl+Z to end input):
this is a c program and
this program is count number of characters
^z
^Z
Total number of characters: 70
Total number of words: 15
Total number of lines: 4

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Process exited after 84.01 seconds with return value 0
Press any key to continue . . .
```